

RESEARCH

BEST PRACTICES

A guide for University of Nevada, Reno faculty researchers....



Prepared by

The Office of the Vice President for Research

Fall 2006

BEST PRACTICES - RESEARCH

Prepared by

The Office of the Vice President for Research
Fall 2006

Contributors

Mark Brenner, Vice President for Research

Richard Bjur, Special Assistant to Vice President for Research and General Counsel,
Director of the Technology Transfer Office

Cindy Kiel, Director, Sponsored Projects Administration

Steven Oberg, Director, Environmental Health and Safety

Susan Publicover, Director, Office of Human Research Protection

Richard Simmonds, Director, Laboratory Animal Medicine

Marsha Read, Associate Vice President for Research, Associate Dean of the Graduate
School

The University of Nevada, Reno

This model is based upon the document “ Responsible Conduct of Research” prepared by the Office of the Vice Chancellor for Research and Economic Develop, Spring 2005, The University of North Carolina At Chapel Hill.”

TABLE OF CONTENTS

Letter from the Vice President.....	5
Guidelines	
Investigator Responsibilities.....	6
Mentor/Trainee Responsibilities.....	7
Industry Research Partners.....	7
Research Misconduct.....	7
Conflict of Interest and Commitment, Kickback and Whistle Blower Policies.....	8-10
Financial Compliance.....	10-12
Preparing Budgets	
Unallowable Direct Costs	
Facilities and Administration (F&A)	
Accounting Standards	
Collaborative Research.....	12
Data Management, Sharing, and Ownership.....	12-13
Publication Practices and Authorship.....	13
International Research Considerations.....	13-14
Intellectual Property.....	14-15
Trademarks	
Copyright	
Patents	
Human Subjects in Research.....	15-16
Institutional Review Boards (IRBs)	
Requirements of HIPAA.....	16
Guidelines for the Use of Vertebrate Animals in Research.....	16-17
Safe Use of Hazardous Materials in Research.....	17-18

Recombinant DNA and Human Gene Transfer Experiments.....18

Controlled Substances.....18

Campus Resources.....19-20

Environmental Health and Safety

Institutional Animal Care and Use Committee (IACUC)

Laboratory Animal Management

Office of Sponsored Projects

Office of Human Research Protection

Technology Transfer Office

A MESSAGE FROM THE VICE PRESIDENT FOR RESEARCH.....

The University of Nevada, Reno has a long and proud history of being the lead research campus within the state of Nevada. Our external funding is growing at a rate that exceeds many other universities. Of greater importance is the fact that we have an increasing number of programs that are nationally and internationally recognized. Consistent with our land grant mission, many of these programs benefit the people of Nevada and the region.

A successful research enterprise is a partnership between the researchers and the administrative support services entities. Individuals at UNR who serve as the principle investigators or other key roles in the design, conduct, or reporting of research should be knowledgeable about the best practices for the conduct of research at UNR. This booklet provides a brief overview of some of the key factors researchers should keep in mind as they conduct their research activities.

Mark L. Brenner

Investigator Responsibilities

Research, scholarly or creative activity is an expectation for the majority of the faculty at the University of Nevada, Reno. Not only are faculty expected to conceive and implement research, scholarly and creative activities, but they are expected to do so in a context that exemplifies “best practices.” Best practices in research, scholarly and creative activity are those that reflect the core values of research identified by the Office of Research Integrity as (1):

- ❖ **Honesty** - conveying information truthfully and honoring commitments,
- ❖ **Accuracy** - reporting findings precisely while taking care to avoid errors,
- ❖ **Efficiency** - using resources wisely and avoiding waste, and
- ❖ **Objectivity** – letting the facts speak for themselves and avoiding improper bias, and
- ❖ **Accountability** – responsibly managing projects in accordance with all applicable laws, regulations and University policies.

When faculty assume the role as Principle Investigator (PI), they assume responsibilities for conducting the research in accordance with campus, system, state and federal regulations regarding human subjects, the use of animals, laboratory safety, intellectual

property, technical reporting, as well as fiscal stewardship.

In addition, as a PI there is a responsibility to assure that those who work collaboratively as co-investigators or those that work on the projects as graduate assistants, postdoctoral fellows, technicians, and others understand the scope and responsibilities associated with the research projects. To that end, principle investigators should implement the following “best practices:”

- Regular meetings with research personnel to discuss the progress of the research, interpretation of the data, concerns or issues that might be arising, problem solving, etc.
- Review the budget on a regular basis to ensure proper fiscal management and oversight.
- File required research status reports with sponsors in a timely fashion.
- Be forthright with personnel who are hired on grant funds about the length of their funding, potential for renewal and continued funding, etc.
- Submit any required compliance documentation to the appropriate office or committee (e.g., IRB or IACUC protocols) in a timely manner and report any compliance or related issues that arise immediately to the appropriate university officials.
- Self-disclose any conflicts of interest.
- Ensure that all individuals who have a significant role in the design, conduct, or the reporting

of research related to a project have submitted conflict of

interest statements as required by University policy.

Mentor/Trainee Responsibilities

A separate responsibility of a faculty researcher is to mentor graduate students and others through the research process. It is a process of taking the graduate student from the position of “student” to the standing of “colleague.” It is a complex role of knowing when to instruct, when to advise, when to remain silent, when to coach, and when to direct. But the “best practices” for effective mentoring are those that rely on:

- Regular meetings and frequent conversations,
- Regular feedback that is honest and constructive,
- Open lines of communication,
- Providing career guidance,
- Providing and/or finding opportunities for professional development, and
- Maintaining an atmosphere of mutual respect and cooperation.
- Review the mentee’s raw data and come to a mutual understanding of the analysis and interpretation of the data.

In a very real sense, the success of the faculty’s research program should be mirrored in the successes of his/her students. The success of trainees will add to the reputation of both the faculty member and the institution.

Industry Partners

University faculty members are encouraged to work with private sector industry partners on collaborative research projects. Such projects will be administered by the Office of Sponsored Projects (OSPA). To enhance such efforts, the State of Nevada provides matching funds through the Applied Research Initiative (ARI). The requirements for ARI funding and a budget format are available on the OSPA website. The ARI program is administered by the Director of the Technology Transfer Office (TTO), who can be contacted at (775)784-4421.

Research Misconduct

Misconduct in research violates “best practices.” It always carries a detrimental outcome whether it be simple mistrust on the part of society, colleagues, or is more serious and evokes fiscal sanctions or criminal prosecution. Every researcher is obligated to avoid research misconduct, wherein intentional or negligent behavior results in:

- Violation of law,
- Dishonesty or fraud,
- Fabrication, falsification or deliberate misrepresentation of data, or
- Plagiarism

A researcher is further obligated to avoid research misconduct by complying with regulatory requirements as:

- Protecting the public, human subjects, and project personnel, and the environment and
- Ensuring the welfare of laboratory animals.

Lastly, misconduct of research is avoided by being cognizant of the need to be fiscally vigilant by complying with:

- OMB Circulars A- 21, A-110, A-33 (see Appendix A)
- Cost Accounting Standards (CAS) and
- Award Terms and Conditions and
- Accurate and timely Personnel Activity Reports (PARs)

Anyone with reason to believe that research misconduct has occurred or is occurring needs to consult with his/her chair to determine if he/she should report the allegation to the Dean and to the Vice President for Research. Federal policies require the University to investigate thoroughly all scientific misconduct allegations.

Conflict of Interest and Commitment

A *conflict of interest* is defined as:

“Any outside interest or activity that may adversely affect, compromise, or be incompatible with obligations of the employee to the University or professional norms.”

This includes situations where significant financial or other interests

will affect approval, design, conduct, or reporting of research and other projects.

A *conflict of commitment* may occur when external activities demand excessive time, conflicting with a researcher’s or other employee’s responsibility to the university or when external activities result in direct competition against the University for resources that the University is otherwise eligible to receive.

Unallowable conflicts include:

- Solicitation or receipt of a gift or other compensation from a vendor,
- Confidentiality agreements that could affect a student’s degree requirements or grade,
- Sponsor interference with publication or suppression of data,
- Evaluation of faculty or students based on participation in outside business activities by an involved employee,
- Non-reimbursement of employees or students for work in industry that was carried out on University time, reimbursed with public funds, and benefits the private entity,
- Use of University resources, including facilities, equipment, or human resources for commercial or private financial gain without adequate compensation for such use.
- Physician reimbursement for marketing a product when in receipt of funding from the same company, and

- Conflicts between an employee's outside activities and the University's commitment to sponsors, (e.g. employee agreement with a sponsor regarding Intellectual Property in conflict with the University's Intellectual Property Policies)

It is not unethical, per se to have conflicting interests, but it is essential that researchers recognize them and that they are managed/monitored appropriately. An employee's failure to disclose conflicting interests is a violation of state law and carries potential criminal liability for the non-disclosing individual. Monitoring is always necessary when researchers have a significant financial interest in a company and propose involving students in University research funded by that company. The monitoring is necessary to ensure that the treatment of students is appropriate and that the outside company's interests do not inappropriately influence the research outcomes.

Conflicts of interest and potential conflicts of interest must be disclosed to the University and then appropriately managed by the University. When it comes to determining whether to disclose a potential conflict or not, it is important that everyone understands that the perception of conflict of interest from a public perspective is more important than whether or not an actual conflict has occurred.

Disclosures are required for:

- Any significant financial conflict of interest,

- Use of University property and facilities for personal gain,
- Confidential projects involving students,
- Involvement of students that benefits a business entity in which the researcher has an interest,
- Sponsor directing student work when driven primarily by commercial considerations,
- Research sponsored by a business in which an employee has a financial or other interest,
- Commitment by an employee for University resources to a business where the employee has an interest in the company, e.g. commitment of laboratories or facilities,
- Use of public funds to benefit an employee's business interest, e.g. purchase of equipment
- Transfer of University technology or intellectual property to a business entity in which the employee has a conflict of interest
- Individual employee receipt of incentive payments from a publisher in return for requiring or promoting specific educational books or materials for students (does not include royalty payments for authors of published works),
- Consulting in the employee's same field of work for external parties during consultant days which involves agreement, oral or written, regarding rights to data, intellectual property, or use of university resources,
- In clinical investigations, any financial interest must be disclosed to subjects and

Institutional Review Board (IRB),

- In clinical investigations, an employee with a conflict can be a Principle Investigator or Co-Principle Investigator ONLY under exceptional circumstances, and
- In clinical investigations, the following are NEVER allowed: incentive payments to individuals from sponsors (must go to a department account) or consent of subjects by an employee with a conflict

Conflicts of Commitment that must be disclosed include:

- An employee who is consulting with a company that is sponsoring his/her research may consult only with approval of the University President,
- Consulting which demands excessive time and conflicts with University responsibilities
- Applying for, receiving, and conducting any sponsored research activities for another organization that ordinarily would be conducted under the auspices of the University.

Violations of the conflict of interest/commitment policies are subject to disciplinary procedures, including sanctions up to and including suspension and dismissal as provided in University and the Nevada System of Higher Education (NSHE) Code, Bylaws, and administrative manual.

Additional sanctions under Nevada State Law or by Federal Sponsors can occur as

well and can include felony level charges for violating the Nevada Ethics Act.

Whistleblower Protection:

The University and the State of Nevada protects those who make good faith allegations of research misconduct under the Whistleblower Protections of the Nevada Revised Statutes **NRS 281.611 through 281.671**. Form NPD-53 can be used to report any violations of the Whistleblower law.

Kickback refers to any money, fee, commission, credit, gift, gratuity, a thing of value or compensation of any kind provided directly or indirectly to any prime contractor, sub-contractor, or employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime or sub-contract. Employees in a position to directly affect a prime or sub-contract must fully disclose annually.

A more complete guide the university's Policy on Conflict of Interest and other research integrity policies can be located at: www.osp.unr/opsa

Financial Compliance

Financial compliance refers to the guidelines covering what expenses can be paid for by sponsored research funds, as well as how those costs must be measured and accounted for. The Office of Sponsored Projects (OSPA) applies federal regulations and guidelines to help researchers maintain financial compliance. The principle investigator has a clear line of responsibility in the

operation and management of grants and contracts, while the ultimate responsibility lies with the University. Working closely with OSPA will help ensure compliance in this area.

Preparing Proposal Budgets

OSPA works closely with researchers in setting up appropriate sponsored research budgets. The principal investigator must ensure there is a direct relationship between the costs proposed and research objectives outline. Salaries and fringe benefits constitute a major part of the direct costs. In determining the percent of effort for personnel named in the budget, the PI needs to be sure the estimate is reasonable in light of other commitments, since faculty and staff working on the project will be required to certify their efforts on the project via PARs (Personal Activity Reports). Other common direct costs are equipment and supplies.

Unallowable direct costs: Alcohol and most food purchases (host type expenses) can not be paid by sponsored research funds. Certain expenses are deemed by the federal government as administrative costs and are included in the University's F&A (Facilities and Administration) which is the indirect cost portion of the budget. These indirect administrative costs normally cover telephones, postage, clerical and administrative salaries, as well as general purpose computers and office supplies.

F&A (Facilities and Administrative Costs)

Every grant or contract proposal should include a request for a percent of the

direct costs to be allocated for facilities and administrative costs (F&A) (also called indirect costs). These costs are billable expenses that are not directly related to any particular project and include expenses such as utilities, building and laboratory maintenance, libraries, clerical support staff, depreciation of buildings and equipment and office supplies, phone costs, and general purpose computers. The F&A rate is negotiated with the federal government. The F&A that is generated by sponsored projects is allocated across campus to defray these costs and to provide general research infrastructure and support. The University's Cost Accounting Standards requires the university to treat all sponsors, whether federal or non-federal, consistently the same. The Office of the Vice President for Research uses its share of F&A, among other thing, to staff the Office of Sponsored Projects, the Office of Human Research Protection, the Technology Transfer Office, support Junior Faculty Research Grants, and to provide partial travel support to faculty who are presenting their research findings.

Accounting Standards

Every department/program must have a well defined system of checks and balances for financial management of sponsored research. Accounts for sponsored research must be clearly identified and easily accessed.

Every year, the University is required to complete an A-133 audit for compliance with federal accounting standards. OSPA and the Controller's office keep official University records about each sponsored project and is routinely audited by federal agency personnel.

However, due to Nevada System of Higher Education (NSHE) record retention policies, some financial documents may not be available in the central administration records during certain project audits, therefore, faculty and departments should maintain receipts, invoices, PARs and other back-up documentation to support the charges made to sponsored project accounts. These records must be kept for a minimum of three years after the final close out of a sponsored project.

While the rules regarding budgets and financial compliance may seem cumbersome, they are there to ensure compliance and ultimately the continuation of sponsored research on the campus.

More information about financial compliance can be directed to the OSPA office at 775-784-4040.

Technical Compliance

All researchers who receive funding to conduct their research, training, or other programs must adhere to the terms and conditions of the award or contract related to their sponsored program. Of primary importance is the timely submission of technical progress reports and intellectual property disclosures. A late report from one investigator can prevent another investigator from having their proposal reviewed or award processed by a sponsor. Late reports often result in red flags for a project to be audited. Failure to submit timely reports can jeopardize the reputation and funding opportunities for the University and other investigators, so it is imperative that reports always be submitted on time.

Collaborative Research

Collaborative research is expanding on campus and is an important part of the University's research endeavors.

When multiple entities (departments, programs, agencies) are involved it is important that they be well managed. Communication is important to all members of a collaborative research team and should cover such things as:

- Project goals and expected outcomes;
- Duration of the project and each participant's role;
- Legal obligations regarding intellectual , regulatory compliance and sanctions for non-compliance;
- Allocation of credit including authorship and financial rewards such as royalties;
- Potential for future collaborations or spin-off projects;
- Guidelines for the hiring, supervising and evaluation of project personnel, including who is responsible for hiring, supervising and evaluating; and
- Responsibilities for making media and publicity activities.

Data Management, Sharing and Ownership

Data that are collected by students and faculty as part of sponsored projects and grants are owned by the University. Researchers maintain physical possession of the data and act as

stewards of the data. Students, including postdoctoral students, who collect data while at the University leave the original data with their major advisor or mentor if they leave the University. They may take copies of the data with them.

Researchers may copyright manuscripts derived from the data. In multi-site studies, each participating site owns its data unless contractual agreements have designated otherwise.

Publication Practices and Authorship

Peer reviewed publication is a desired outcome of most sponsored research. Authorship of peer reviewed publications is an important part of the tenure and promotion process at the University.

Researchers, as authors, are obligated to ensure that ethical standards of research are carried out in the publication process as well. Namely,

- The data are presented accurately and objectively;
- The methodology is sound and can be replicated and fairly assessed by others in the field;
- Any conflicts of interest should be revealed to the editor;
- All collaborators are clearly recognized in the manuscript, in accordance with the authorship customs of the particular discipline;
- All authors support the conclusions and text of the manuscript and agree to submit the manuscript;

- Appropriate citations are given in the body of the manuscript;
- Simultaneous submission of essentially the same manuscript to different journals is unacceptable;
- As a general rule, research should be published in peer-reviewed scientific journals before results are released to the media.

International Research Considerations

Conducting research in an international context needs to consider not only the policies, procedures, regulations, etc., of the university, but also those of the host country. It would be beyond the scope of this document to outline all the various scenarios that could arise. However, ethical considerations should include:

- Protection of human subjects.
- Appropriate use of animals as test models.
- Appropriate use of hazardous materials.
- Appropriate use of radioactive materials.
- A research environment that is safe for all employees.
- Liability and safety of employees – graduate students, technicians, etc.

Since the funding for a significant portion of international research comes from wealthier nations, researchers need to be vigilant to avoid exploitation of the participants from other less wealthy country with respect to all aspects of the research project.

The Office for Human Research Protection, Department of Human and Health Services at the national level has a reference on “International Compilation of Human Subject Research Protections” as a resource. It is available at www.hhs.gov/ohrp/international/HSPCompilation.pdf

Intellectual Property

The Technology Transfer Office deals with issues of intellectual property such as trademarks, copyrights, and patents.

Trademarks: The University has policies regarding the use and distribution of certain words, symbols, and logos that belong to the University. The University’s name or trademarks cannot be used without permission to imply University endorsement or sponsorship of non-University activities.

Copyright: A copyright is granted to the author or originator of certain written or artistic products, including abstracts, articles, and published music.

The University’s copyright policy should be reviewed by faculty, students and staff to insure that violations of copyright policy do not happen.

The University’s copyright policy is available at: www.tto.nevada.edu

Patents: A patent is a property right granted legally to an inventor to “exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States” for a limited time in exchange for public disclosure of the invention when the patent is granted.

The University owns all patentable inventions of University employees if those inventions originate as a result of University research activities, are within the scope of the inventors employment with the University or were conceived or developed with the use of University resources

University personnel who either alone or in association with other University or non-University personnel, make an invention in which the University has or may have an interest must disclose the invention to the Technology Transfer Office.

The Technology Transfer Office is also responsible for all Material Transfer Agreements and all Confidentiality Agreements. A Material Transfer Agreement is required whenever a material is transferred between institutions. Confidentiality Agreements are often necessary to protect information from being prematurely disclosed to the public and thereby preventing the opportunity to patent the invention at a later date. Confidentiality Agreements are utilized to protect proprietary information that is disclosed in connection to

collaborative research agreements with other institutions or business entities.

Questions about Intellectual Property (including patents and copyrights), Material Transfer Agreements or Confidentiality Agreements should be referred to the Technology Transfer Office at 775-784-4116.

Human Subjects in Research

University policy requires that researchers respect and protect the rights and welfare of individuals recruited for, or participating in, research conducted by or under the auspices of the University of Nevada, Reno (UNR), including the University of Nevada School of Medicine (UNSOM). In the review and conduct of research, actions by the UNR and the SOM will be guided by the principles (i.e., respect for persons, beneficence, and justice) set forth in the [Ethical Principles and Guidelines for the Protection of Human Subjects of Research](#) (often referred to as the "[Belmont Report](#)") and will be performed in accordance with the Department of Health and Human Services (DHHS) policy, [Title 45 Code of Federal Regulations \(CFR\), Part 46](#) (also known as the "**Common Rule**") and with the Food and Drug Administration (FDA) policy, [Title 21 CFR Part 50](#) and [Title 21 CFR Part 56](#). In addition, UNR will conform to all other applicable federal, State, and local laws and regulations.

To fulfill this responsibility effectively, the University maintains **Institutional Review Boards** (hereafter known as

IRBs) to review research protocols involving human subjects and to evaluate both risk and protection against risk for those subjects. It is the function of the IRBs to 1) determine and certify that all projects reviewed by the IRBs conform to the regulations and policies set forth by the DHHS and FDA regarding the health, welfare, safety, rights, and privileges of human subjects; and 2) assist the investigator in complying with federal and State regulations.

Authority of the Institutional Review Boards:

UNR currently has three designated IRBs with the authority to review, approve, disapprove, or require changes in research activities involving human subjects. These IRBs have been established in accordance with the requirements of current federal rules.

The **Biomedical (IRB00000215)** IRB reviews all medically oriented research proposals involving human subjects. The Biomedical IRB may refer proposals to the Social Behavioral IRBs.

There are two social behavioral institutional review boards: **Social Behavioral IRB – Panel A (IRB00000216)** and **Social Behavioral – Panel B (registration number pending)**. These IRBs review all non-medical research proposals involving human subjects. The Social Behavioral IRBs may refer proposals to the Biomedical IRB.

Before any human subject is involved in research in relationship to this institution, an **IRB** will give proper consideration to:

- the risks to the subjects

- the anticipated benefits to the subjects and others
- the importance of the knowledge that may reasonably be expected to result
- the informed consent process to be employed

Researchers (student and faculty researchers) are responsible for:

- ensuring that IRB approval is obtained PRIOR to the initiation of research AND before making any changes in the research protocols;
- that the research study is accurately and completely reviewed by the appropriate IRB;
- that the IRB is informed in a timely manner of all changes to the IRB approved protocols;
- that required IRB renewals, reports, etc. are submitted as needed; and
- any unanticipated problems or serious adverse events that pose risk to human subjects are reported to the IRB.

Investigators are responsible for ensuring that all members of the research team comply with regulations regarding human subject research.

Principle investigators must complete the University-required human subjects protection training before a human subjects application will be accepted by the UNR OHRP and all other members of the research team must complete the training before the application will be granted approval to proceed with the project.

For additional information, refer to the policies and procedures for human research protection found at:
<http://www.unr.edu/ohrp/>

Or call 775-784- 327-2368

Requirements of the Health and Insurance Portability and Accountability Act (HIPPA)

HIPPA is applicable to health care providers, insurers, and clearing houses. The Privacy regulations within HIPPA are aimed at protecting an individual's privacy and security. The privacy regulations extend to both medical and non-medical information such as addresses, etc., that have been obtained in the course of health care treatment, payment or operations. HIPPA privacy regulations are in addition to the regulations for the ethical consideration required in research involving human subjects.

HIPPA regulations would be applicable in those cases where individuals access and use data from health care providers, insurers, etc. for research purposes. Access to such data is highly regulated and would fall under the auspices of the Office of Human Research Protection (previous section).

Guidelines for the Use of Vertebrate Animals in Research

Just as there are policies and procedures for human subjects research, there are laws, regulations, etc. that govern the use of vertebrate animals in research.

The main set of regulations governing the use of vertebrate animals in research stem from the Animal Welfare Act under the auspices of the United States Department of Agriculture (USDA) and the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals.

It is University policy that **ALL** use of vertebrate animals by University faculty, staff, graduate students, and undergraduate students; regardless of where the work is done or the source of the funding; must be covered by an Animal Care and Use Protocol approved by the UNR Institutional Animal Care and Use Committee (IACUC).

The regulations require the University to establish an IACUC. Just as with human subject research, researchers using laboratory animals must ensure:

- that IACUC approval is obtained **PRIOR** to the initiation of research **AND** before making any changes in the research protocols;
- that the research study is accurately and completely reviewed by the IACUC;
- that the IACUC is informed in a timely manner of all changes to the IACUC approved protocols;
- that required IACUC renewals, reports, etc. are submitted as needed; and
- any unanticipated problems or serious adverse events are reported to the IACUC.

Principle Investigators are responsible for ensuring that all members of the research team are familiar with the provisions of the protocols covering the research activities they are involved in and that they comply with IACUC regulations.

For more detail on IACUC requirements, refer to <http://www.unr.edu/med/lam/> or call the office of Laboratory Animal Medicine at 775-784-4874

Safe Use of Hazardous Materials in Research

For those researchers whose activities require the use of hazardous materials (chemicals, radioisotopes, biological agents, etc.), the University, through the office of Environmental Health and Safety (EH&S), works to assure that such research complies with appropriate federal, state and local regulations regarding the acquisition, use, storage and disposal of such items. In addition EH&S is concerned with the health and safety of human personnel working with such agents, and on potential environmental impacts associated with research and operations.

EH&S has the following programs and services to assist researchers:

- Laboratory safety;
- Occupational safety;
- Radiation safety;
- Chemical inventory;
- Waste management;
- Training;
- Indoor air quality;
- Emergency planning;

- Environmental affairs

EH&S also supports the following specialty safety advisory committees: Laboratory Safety, Radiation Safety, including Laser Safety, Occupational Safety, Emergency Planning, Institutional Biosafety, and the Energy and Environment Committee.

It is the responsibility of researchers to conduct their research in compliance with the rules and regulations regarding management of hazardous materials and to ensure that their personnel are likewise trained.

Each research laboratory, as applicable, must have an approved Chemical Hygiene Plans (CHP) with Standard Operating Procedures, accurate hazardous material inventories, appropriate Material Safety Data Sheets (MSDS), and lab emergency procedures. University policies and procedures related to radiation and biosafety (including select agents), infection control and related requirements are discussed in laboratory safety training classes.

Further details are available at:
<http://www.ehs.unr.edu>

or contact the EH&S office at 775- 327-5040.

Use of Radioactive Materials, Radiation Producing Equipment, and Lasers

Use of radioactive materials, radiation producing equipment, and lasers is

regulated by the State of Nevada. UNR activities involving these items are regulated by the provisions of a permit issued by the state. Persons using these items must contact the Radiation Safety Office at 775-784-4874 to determine what approvals and training are required for such use. If authorization to use these materials is required, application for authorization will need to be submitted to the UNR Radiation Safety Committee.

Recombinant DNA and Human Gene Transfer Research

Research involving recombinant DNA must always comply with NIH Guidelines for Research Involving Recombinant DNA Molecules.

At the University, recombinant DNA work that is designated as Biosafety Level 1 (BL-1) does not require institutional approval. However, for any recombinant DNA work at Biosafety Level 2 or higher, PRIOR approval is required. The Institutional Biosafety Committee (IBC) is the entity that screens and approves research protocols of this nature.

More information on the IBC is available at:

<http://www.ehs.unr.edu/Default.aspx?alias=www.ehs.unr.edu/ibc>

or call EH&S at 775-327-5041

Controlled Substances

For guidance on the use of controlled substances in a research project, please

contact the Office of Environmental Health and Safety.

Additional Resources for Researchers:

Environmental Health and Safety:

For further information on Nevada State Radiologic Health Program:

<http://health2k.state.nv.us/BHPS/rhs/>

Further information on lab safety:

Howard Hughes Medical Institute:

<http://www.hhmi.org/science/labsafe>

CDC lab safety, select agents, biosafety, etc.

<http://www.cdc.gov/od/ohs/>

CDC BMBL 4th edition:

<http://www.cdc.gov/OD/ohs/biosfty/bmb14/bmb14toc.htm>

NIH guidelines:

<http://ww4.od.nih.gov/oba/rac/guidelines.html>

Other good laboratory safety references:

American Biological Safety Association (ABSA): <http://www.absa.org>

OSHA for lab safety:

<http://www.osha.gov/SLTC/laboratories/index.html>

EPA: <http://www.epa.gov>

National Safety Council:

<http://www.nsc.org>

American Society of Safety Engineers:

<http://www.asse.org>

American Conference of Governmental Industrial Hygienists:

<http://www.acgih.org>

American Industrial Hygiene

Association: <http://www.aiha.org>

Laboratory Animal Management:

All vertebrate animals used in University programs must be housed in facilities that are compliant with applicable regulations and accreditation standards. Facilities managed by persons other than staff employed in the Office of Laboratory Animal Care Services (OLACS) must be managed in accordance with Standard Operating Procedures (SOPs) approved by the IACUC and the Institutional Veterinarian.

Quarantine of animals entering University animal facilities will be conducted in accordance with established SOPs. Quarantine space for incoming rodents is limited and the need for this service must be coordinated with the OLACS well in advance of need.

For questions regarding services provided by the OLACS, call 775-784-4874 or refer to

<http://www.unr.edu/med/lam/>

Office of Sponsored Projects

Administration:

Finding funding resources: Community of Science Database Faculty Profiles & Grants Resource Center at www.unr.edu/ospa

Training: Research Administration Certificate Workshop Series (1 workshop/month for 6 months)

contacted at (775) 784-4421. The TTO website address is: www.tto.nevada.edu

Grants.gov training monthly. Check OSPA website for details.

Sponsored Projects Administrative Manual: Applicable Policies and Procedures related to Sponsored Projects – online at www.unr.edu/opsa

Office of Human Research Protection:

For further information on the University's human research protection program: <http://www.unr.edu/ohrp/>

CITI Course in the Protection of Human Research Subjects (required of all investigators and members of their research teams):
<https://www.citiprogram.org/default.asp>

HHS Office for Human Research Protections: <http://www.hhs.gov/ohrp/>

FDA Information Sheets:
<http://www.fda.gov/oc/ohrt/irbs/default.htm>

VHA Handbook 1200.5 “Requirements for the Protection of Human Subjects Research.”
http://www.l.va.gov/vhapublications/Viapublications.asp?pub_ID=418

Technology Transfer Office:

The Technology Transfer Office (TTO) is located in Room 218, Ross Hall. The TTO represents both the University of Nevada, Reno and the Desert Research Institute. The Director of the TTO is Richard Bjur, J.D., Ph.D. He can be